

Amendments to the Claims:

1. (Currently Amended) A radiation applicator having one end and an opposite distal end, the radiation applicator comprising:

has a power input at said one end,
an elongate antenna extending axially of the applicator at ~~its~~ said distal end, and
a dielectric body which surrounds the antenna, ~~the radiator serving and serves~~ to
emit radiation radially of the ~~antenna~~ dielectric body into surrounding material,
~~characterised in that the dielectric body consists of~~ comprising multiple sections of
different dielectric constant which are located axially relative to one another along the
antenna.
2. (Original) An applicator as claimed in claim 1 in which, the dielectric body consists of a
second section adapted to emit radiation, and a first section between the second section
and the power input, and having a lower dielectric constant than the first section.
3. (Original) An applicator as claimed in claim 2 in which the dielectric body has an outer
section furthest from the power input having a dielectric constant lower than that of the
second section.
4. (Original) An applicator as claimed in claim 3 in which the outer section has a dielectric
constant intermediate that of the first and second sections.
5. (Currently Amended) An applicator as claimed in any of claims claim 1 in which, the
multiple sections are made as separate components and are assembled to abut against one
another end-to-end.
6. (Currently Amended) An applicator as claimed in any of claims claim 1 in which, a
radiation reflector is provided at the interface between two sections of the dielectric body
so as to modulate the transmission of radiation and tune the applicator.
7. (Original) An applicator as claimed in claim 6 in which, a radiation reflector is provided
each side of a section which is intended to emit radiation into the surrounding material, a

reflector on that side further from the input end having a larger area so as to reflect more energy than the reflector nearer the input end, thereby reducing transmission of radiation to the tip of the applicator.

8. (Currently Amended) A radiation applicator having one end and an opposite distal end,
the radiation applicator comprising:
 - a power input at said one end,
 - an elongate antenna extending axially at its said distal end for emitting radiation into surrounding material,
 - a dielectric body which surrounds the antenna, and
 - one or more a plurality of radiation reflectors located axially along the antenna within the dielectric body to modulate the transmission of radiation, characterised in that wherein two radiation reflectors are axially spaced apart with the an intermediate section of the dielectric body disposed between said two radiation reflectors and intended to emit radiation radially into the surrounding material, the reflector on one side further from the input having a larger area so as to reflect more radiation than the reflector nearer the input end, thereby reducing transmission of radiation to the tip of the applicator.
9. (Currently Amended) An applicator as claimed in any one of claims 6 to 8 claim 6 in which, each the reflector is located at the an interface between separate sections of the dielectric body and gives structural support to the applicator.
10. (Currently Amended) An applicator as claimed in any one of the preceding claims claim 1 in which the an outer end of the dielectric body furthest from the power input is pointed.
11. (Currently Amended) An applicator as claimed in any of the preceding claims claim 1 in which the power input comprises a coaxial conductor having a central conductor and an outer conductor, and in which the central conductor extends from the outer conductor to form said elongate antenna.

12. (Currently Amended) An applicator as claimed in claim 11 in which the dielectric body has a reduced diameter and which is inserted into ~~the~~ an open end of the outer conductor.
13. (Currently Amended) A radiation applicator having one end and an opposite distal end, the radiation applicator comprising:
 - a power input at said one end,
 - an elongate antenna extending axially at ~~its~~ said distal end for emitting radiation into surrounding material, and
 - a dielectric body which surrounds ~~that~~ the antenna, ~~characterised in that~~ wherein the antenna extends through a hole in a section of said dielectric body and through a hole in a radiation reflector attached to an axial end face of said section of dielectric body, and said radiation reflector is attached to the antenna so as to give structural support to the applicator.
14. (New) A radiation applicator having one end and an opposite distal end, the radiation applicator comprising:
 - a power input at said one end,
 - an elongate antenna extending axially of the applicator at said distal end, and
 - a dielectric body which surrounds the antenna and serves to emit radiation radially of the antenna into surrounding material, wherein the dielectric body comprises multiple sections of different dielectric constant which are located axially relative to one another along the antenna.